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Why Does Controversy Persist? Paradigm Clash, Conflicting Visions, and Academic Productivity in the Aesthetics of Religion

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ABSTRACT

The genre of controversy studies in Science & Technology Studies distinguishes between 'internalist' and 'interactional' controversies. Interactional controversy studies highlight that debates involving multiple stakeholders with competing interests often evade closure. Research on internalist controversies focuses on how a 'core-set' of experts manages to resolve arguments about knowledge claims. Yet, internalist controversies do not always reach closure; dissent may persist while scientific work continues. A controversy within the German research network AESToR has persisted for several years, with periodic outbreaks and without impinging on academic productivity. AESToR pioneers the aesthetics of religion in religious studies; members have debated how to relate cognitive with cultural approaches to the study of religion. Three analytical perspectives – *paradigm clash*, *conflicting visions*, and *productivity* – explain why controversy persists in AESToR. Controversy is fuelled by conflicting visions of connectivity, competence, and ethics. These visions are informed by and give rise to a clash between paradigms: *Kulturwissenschaft* and *Naturwissenschaft*. The controversy persists because there are conflicts between views about epistemology, morality, and the future of the aesthetics of religion. Moreover, keeping the controversy alive stimulates productivity in terms of academic output and epistemological pluralism. Rather than closing the debate, participants have a stake in keeping it going.

KEYWORDS

Controversy studies; paradigm clash; conflicting visions; epistemological pluralism; cognition-culture divide; religious studies

Introduction

In November 2017, I observed an outbreak of controversy during a workshop organised by the early-career research network AESToR to work on *The Bloomsbury Handbook of Cognitive and Cultural Aesthetics of Religion*. The

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title of the handbook sparked discussions among AESToR members, as illustrated by the following excerpt from my field notes of the event:

A: I am shocked about the proposal for the handbook title. I am afraid that peer-reviewers say that the chapters do not live up to the title's promise.
B: Are there scholars in AESToR who think that 'cognitive' and 'cultural' work together and can make a case for it?
C: I work with cognitive theory.
D: It is a good title because it connects anthropology of the senses with recent developments in the study of sensory perception in the cognitive sciences. Religious studies scholars need to be in conversation with new approaches to the sensing subject! We have to engage with literature from the cognitive science of religion.
E: We should not go into a new field for the handbook. We should build on what we have done and position ourselves constructively.
A: I argue against the cognitive approach in my handbook contribution. I feel more at ease with the cultural approach.

The discussion about the handbook title reflects a broader controversy over the relation between the aesthetics of religion and the cognitive science of religion. The aesthetics of religion, which originated as an academic field in the humanities in Germany in the 1980s, studies sensory perception of religious practices and experiences. Its pioneers founded the AESToR network and received funding from the German Research Fund between 2015 and 2018 to solidify and internationalise the field. AESToR members pursue a cultural approach to the study of religion which encompasses historical, literary, and ethnographic inquiries. However, some of them consider it the task of the aesthetics of religion 'to bridge the gap between cognitive and cultural approaches to religion' (www.aestor.net). The cognitive approach emerged in the cognitive science of religion (CSR), a young academic field with institutional roots in Europe and Northern America devoted to the study of religion on the basis of theories and methods from the cognitive sciences.

The controversy over the relation between the aesthetics of religion and CSR has persisted for years, including periodic outbreaks. In September 2019, I witnessed an outbreak which had started shortly before the 33rd Biannual Conference of the German Association for the Study of Religion (DVRW). Controversy surrounded AESToR's panel 'Aesthetics. Materiality. Cognition. – Where should we go in conceptualizing religion?,' which aimed to open discussions on questions such as: 'How will we position ourselves towards the nasty ditch with natural scientific axioms in CSR?' (Koch and Guggenmos, 2019a). The panel abstract, which also served as a call for panel contributions, seemed to be an open invitation to continue the controversy.

This observation is unusual in light of the 'internalist' (Jasanoff, 2017, p. 269) sub-genre of controversy studies in Science & Technology Studies (STS). Internalist controversy studies trace debates about knowledge claims,

observational evidence, and methodologies within a demarcated 'core-set' of experts (Collins, 1981). A core-set is composed of scientists who study the same topic, but who have weak social relations because they disagree on matters of fact and method. It is a 'transient hot-spot in science' (p. 12) which dies down as soon as one view has come to prevail. From within the core-set emerges a 'core-group' (Collins, 2000, p. 825). Members of the core-group have stronger social ties because they have a unified objective and agree on a dominant view – a condition for social cohesion according to Collins (Lynch, 2002, citing Collins, 1983).

Although the controversy in AESToR takes place within a well-demarcated set of academics, it differs from internalist controversies in science. AESToR resembles a core-group because members form a cohesive group with a shared goal: to promote the aesthetics of religion. Some of them have developed solidaristic relations since 2007, when the self-funded German working group *Arbeitskreis Religionsästhetik* was established (Wilke, 2008) which later transformed into AESToR. Against this backdrop, it is surprising that AESToR has gone through periodic outbreaks of controversy and that members seek to fuel debate instead of making efforts to close it (Collins, 1981; Pinch, 1981; Edmond, 2001).

A reason for the persistence of controversy in this case may pertain to its being situated at the intersection of the humanities and the cognitive sciences. Internalist controversy studies have mainly focused on the natural sciences (Shapin and Schaffer, 1985; Collins and Pinch, 1998) and more applied sciences, such as engineering (Bijker, 1995) and medicine (Lehoux et al., 2010). Scholars have rarely paid attention to controversies in the arts (Versteegh, 2009), social sciences (Gieryn, 1999), and humanities (Kaltenbrunner, 2015). Kaltenbrunner argues that looking beyond the natural sciences opens up different dynamics in controversies. He traces a controversy around a digital innovation of a bibliographical tool for Dutch literary studies – a 'clash between different ways of defining an area of scholarly inquiry, occasioned by an overarching discourse of the "encounter" between the humanities and digital technology' (p. 29). Similarly, Panofsky (2015) demonstrates how controversy has restructured behaviour genetics, a field sitting uncomfortably between the natural and the social sciences. He proposes reasons for the persistence of controversy.

Inspired by Panofsky, this article explains why controversy over the relation between cultural and cognitive approaches to the study of religion endured in AESToR. It identifies three reasons for the persistence of controversy: *paradigm clash*, *conflicting visions*, and *productivity*. After rooting these concepts in the philosophy of science, the sociology of expectations, and STS, I elaborate on the methods employed to study the controversy. The empirical analysis shows how controversy is reproduced in three ways: (1) in the opposition between *Kulturwissenschaft* and *Naturwissenschaft*, (2) in conflicting visions of connectivity, competence, and ethics concerning the relation between the

aesthetics of religion and CSR, and (3) in productive engagements with controversy that result in academic output and epistemological pluralism. This analysis underlines that internalist controversies in the humanities must not be considered as bounded, ephemeral phenomena. As such it sheds light on the social dynamics that promote controversy while organising the humanities around the cognition-culture divide.

Analytical Perspectives

Several authors have surveyed the long history in STS of studying scientific and technological controversies (Sismondo, 2010; Pinch, 2015; Jasanoff, 2017). They make a distinction between what Jasanoff calls 'internalist' and 'interactional' controversies (p. 269). While internalist controversies are fought at research frontiers among a delineated group of experts, interactional controversies involve society.[1] The study of interactional controversies dates back to the 1960s when technological developments like nuclear power and petrochemistry sparked societal debates. Nelkin (1992), who pioneered this genre, recognises that few of these debates are ever resolved. They often persist for decades or recur in changing forms and places because they involve competing political interests and moral norms.[2]

Internalist controversies, by contrast, are usually characterised as instable, intermittent periods that the experts involved try to overcome swiftly. Since the late 1970s, the sociology of scientific knowledge has examined how controversies about knowledge claims end and how social order is produced (Collins, 1985; Shapin and Schaffer, 1985). This approach has been taken up to study how the meaning of technologies stabilises (Pinch and Bijker, 1987; Bijker, 1995), as well as how sets of social, cognitive, and material relationships are fixed in black boxes (Latour, 1987). Scholars involved in the Hastings Center's Closure Project dedicated four years to developing case studies and typologies of the ways in which scientific controversies come to be regarded as having reached 'closure,' 'resolution,' or 'termination' (Engelhardt and Caplan, 1987). However, Mendelsohn (Williams, 2019, citing Mendelsohn, 1987, p. 101), one of the contributors, acknowledges that

> resolution is by no means always found … On the contrary it appears that scientific work is able to continue and that the knowledge and explanatory modes used by both parties of a conflict become a part of the broad body of knowledge and technique in the sciences and can be, and often are, used even while disagreement persists.

Several controversy studies that focus on disputes among experts have indicated that controversies persist over time, re-open, or recur in new contexts. Williams (2019) analyses an ongoing controversy over rival technologies and operating techniques for eradicating blindness. Rosen (1993) observes that the mountain bike's design, rather than having stabilised, remained open to (user-

)interpretation and flexibility. Controversies among members of a core-set have been shown to give rise to 'life after death' of 'rejected science' (Collins, 2000, p. 824; Simon, 2002), or to evade closure for longer than a decade (MacKenzie and Barnes, 1975; Pinch, 1981; Segerstråle, 1986).

Whereas these controversy studies merely touch upon reasons for the persistence of controversy, Panofsky (2015, p. 9) wrote a book on what he calls 'misbehaving science':

> Controversies wax and wane, sometimes they emerge explosively, but they never really resolve and always threaten to reappear … If science is like a machine for resolving controversies, in misbehaving science that machine is broken.

Drawing on Bourdieu's field theory, he analyses 'how controversy has shaped the development of behavior genetics' while also explaining why 'controversy has been so persistent' (Panofsky, 2015, p. 11). Reasons for the persistence of controversy include, among others, a *paradigm clash*, *conflicting visions*, and *productivity*. Combining these concepts helps making sense of controversy in AESToR because they allow me to explain why members of a core-group choose to sustain alternative paradigms. To build on Panofsky's historical account, I develop these concepts theoretically and apply them to a controversy *in situ*.

Paradigm Clash

It is a widely held view among scholars, in particular in the philosophy of science, that controversies can be the product of metatheoretical disagreement. According to McMullin's (1987) classification of controversies, 'controversy of principle' (p. 71) is difficult to resolve: 'Such principles may be either *methodological*, bearing on the procedures and criteria of science, or *ontological*, having to do with the basic categories and forms in terms of which we schematize the natural world' (p. 73, emphasis in original). He introduces the controversy over the adequacy of Newton's notion of force as an example of a controversy of principle that 'even after three centuries is not quite over' (p. 73) because it resurfaces in debates surrounding the theory of relativity. He adds the Aristotelian-Galilean debate on planetary motion as another prime example, which is also known as a clash of Kuhn's (1992[1962]) 'paradigms.'

Similar to Kuhnian paradigms are Fleck's (1935) 'thought styles,' Laudan's (1977) 'research traditions,' or Rheinberger's (1994) 'experimental systems.' These concepts cannot be used interchangeably, but all of them have explanatory potential for the relation between metatheoretical disagreement and controversy. Rheinberger, for instance, defines 'experimental systems' as 'basic, functional units of scientific activity' (p. 67). Experimental systems enable a closer look at the micro-dynamics of scientific activity, the heterogeneity of which in a particular field challenges Kuhn's idea of a paradigm's coherence

as coordinating the activity of a whole scientific community. Hagner and Rheinberger (1998) suggest that 'an analysis of how different experimental systems interact – how they overlap, and how they delimit, exclude, or supplement each other – should provide insight into the developmental dynamics of broader fields of science' (p. 359). An analysis of how experimental systems exclude each other is informed by Kuhn's (1992[1962]) concept of 'incommensurability of competing paradigms' (p. 348), i.e. mutual incomprehensibility between proponents of different theories.

Drawing on Kuhn, philosophers argue that conceptual issues 'help explain the persistent tendency of advocates and critics of traditional behavioural genetics to talk past another' (Griffiths and Tabery, 2008, p. 344). Competing paradigms are presented as the source of miscommunication in the old 'nature-nurture controversy' (Pastore, 1949). Panofsky (2015) agrees that paradigms 'matter, certainly, but their effects are mediated by field-level structures' (p. 191). An academic field can provide 'an intellectual big tent that houses an array of competing paradigms' (p. 28). An example of such a 'big tent' is religious studies, a multi-disciplinary field where scholars are used to theoretical and methodological pluralism (Stausberg and Engler, 2011). Although conflicts between paradigms may be conducive to nurturing controversy, its prospering depends on social dynamics.

Conflicting Visions

The relation between a paradigm clash and academic debates can be turned upside down by examining the social dynamics that make paradigms conflict, integrate, or coexist peacefully. For example, Panofsky (2015, p. 105) contradicts

> the common notion that animal and human researchers are working with incompatible "experimental systems," and that the controversy would be determined by these systems' capacities and the questions asked. I show that the causation is opposite: different visions of the field imagine different relationships between experimental systems and deem different questions worth asking.

Whereas animal researchers envisioned behaviour genetics as the common pursuit of an intrinsic interest in understanding behaviour genetically, human researchers considered behaviour genetics as a portable set of tools for solving social problems. As argued by Panofsky, an 'intellectual debate was tied up in conflicting social visions of behaviour genetics as a field' (p. 15).

The analysis of 'conflicting visions' (Lösch et al., 2018) is an approach in the sociology of expectations in which researchers examine how the future is used to 'marshal resources, coordinate activities, and manage uncertainty' (Brown and Michael, 2003, p. 4) in the pursuit of present agendas (Van Lente and Rip, 1998; Borup et al., 2006). Similar to expectations, anticipations,

imaginaries, and promises, visions 'articulate possibilities of what the future may hold' (Hanson, 2011, p. 5) and 'how life ought, or ought not, to be lived' (Jasanoff, 2015, p. 4).

Research on visions emphasises that debates among scientists and engineers may have a moral and political overlay because they are entangled with wider societal visions (Lilliestam and Hanger, 2016). For instance, contested narratives of nanotechnology are structured around an emerging set of visions. Visions and counter-visions of, among others, the future conduct of warfare, future transportation systems, and future social life shape nanotechnology's research trajectories (Kearnes and Macnaghten, 2006). Nelkin (1995) concludes from her analysis of interactional controversies that 'conflicting visions preclude closure' (p. 445) – an observation that is equally relevant for internalist controversies. In his critical review of the proceedings and conclusions of the Hastings Center's Closure Project, Collins (1988) points out that 'even in the most unapplied regions of the physical sciences, experiment and scientific method are not sufficient to effect a closure if people care enough about the subject of the debate' (p. 48).

Productivity

Research in the sociology of expectations indicates that conflicting visions can result in 'productive clashes' that are 'drivers of socio-technical change' (Lösch and Hausstein, 2018). Along these lines, scholars in STS and philosophy of science claim that controversy is productive for research and development in at least three ways. First, controversy is a driver of change giving rise to emerging science and technology (Martin, 2014; Delborne, 2015; Williams, 2019). As vigorous, free debate allows for the destabilisation of hegemonic systems, it is vital to unorthodox knowledge production and the development of novel technologies (Williams, 2019, citing Hård, 1993; Barthe et al., 2020).

Second, recent work in philosophy of science by Kitcher, Longino, Solomon, and others describes controversy as a condition for the democratisation of knowledge and epistemological pluralism (King, Morgan-Olsen, and Wong, 2016). Contrary to most philosophers of science since Kuhn, they consider dissent instead of consensus as the ordinary state of science because more than one theory may be (partially) true (Solomon, 2001) and more than one method may be appropriate for a specific problem (Williams, 2019). It is potentially most productive for an academic community to pursue various paths of inquiry simultaneously while scrutinising each line of research from multiple vantage points.

Third, STS research highlights that controversy is profitable in terms of financial revenue and academic output. Rosen (1993) stresses the link between controversy, technological innovation, and economic benefits. To make profits, companies 'promote an incessant pursuit of technological

innovation that opposes the concept of stabilisation' (p. 493) and leaves a technology in a 'constant and irresolvable state of interpretive flexibility' (p. 505). In a similar vein, Panofsky (2015) shows how behaviour geneticists made controversy 'profitable' for their and their opponents' career-advancement (p. 140): 'Cycles of claims and rebuttals generate grants, projects, data collection, presentations, and publications – the practical activity of scientific careers' (p. 163). Controversy in behaviour genetics endured because it 'kept the engines of scientific productivity turning' (p. 140). It can thus be in the interest of all participants in a debate to keep controversy alive (cf. Segerstråle, 1986).

Methods

For developing my analytical perspective, a tripartite framework that combines *paradigm clash, conflicting visions,* and *productivity* to explain the persistence of controversy, I drew on abduction (Timmermans and Tavory, 2012). A surprising research finding – enduring controversy in AESToR – gave rise to an inferential process in which iterative movements between empirical data and theory generated theoretical insights against the backdrop of existing theory. The empirical analysis below shows how the theoretical framework applies to the controversy in AESToR. This analysis starts from data collected on the basis of three complementary qualitative strategies: participant observation, qualitative interviews, and examination of scientific literature.

I conducted participant observation during three AESToR workshops in Germany: 'Methodology in Aesthetics of Religion' in 2017, November 10–12; 'Handbook Cultural and Cognitive Aesthetics of Religion' in 2018, May 31–June 3; 'Aesthetics-Times-Religion' in 2019, September 2–3. Furthermore, I participated in two open panels organised by AESToR at the 33rd Biannual Conference of the German Association for the Study of Religion (DVRW) in 2019, September 3–6. My field notes comprise detailed annotations taken during presentations and discussions as well as notes about my interactions with participants.

The workshops I attended involved some 20 participants on average. Although AESToR includes officially 15 members who received funding from the German Research Fund, about 15 additional self-funded scholars are also part of the network and try to join meetings regularly. This number is an approximation because the wider circle of the network is not a fixed group; frequently new members join and old members take a step back. I selected interviewees from both the inner group and its wider circle by means of snowball sampling. The interviews, which were conducted in German, took place between February and July 2018. I addressed the following themes during the interviews: individual involvement in the AESToR network, controversial discussions in AESToR, relations between the aesthetics of religion and CSR, and the future of the aesthetics of religion.

In addition, I examined a number of relevant AESToR publications. During the three-year funding period of the network, members worked on three volumes (Grieser and Johnston, 2017a; Koch and Wilkens, 2019a; Johannson, Kirsch, and Kreinath, 2020). They had published together before, as AESToR emerged from the self-funded German working group *Arbeitskreis Religion-sästhetik*, which has sought to institutionalise the aesthetics of religion since 2007. I examined volumes published by this working group as well as articles and books written by individual members.[3] The study of documents served to contextualise AESToR, develop interview questions, and enrich the analysis. For this article, I translated the quotations from German documents and interviews into English. I did not include references to individual interviewees to protect the anonymity of AESToR members.

In several respects, my data collection and the analysis were informed by a symmetrical approach (Bloor, 1991[1976]); in other respects, they became asymmetrical. In line with the symmetrical tradition, I do not take a position on how the aesthetics of religion should relate to CSR. However, my affiliation with Prof. Dr. Anne Koch, who is well-acquainted with CSR literature and has experience in collaboration with a medical researcher, may have had repercussions on my data collection and interpretation. Upon Koch's invitation, I contributed a review essay on CSR to a special issue on the aesthetics of religion in a German review journal (Smolka, 2019a), which may have prompted AESToR members to consider me as a promoter of CSR. Moreover, Koch asked me to present my preliminary research findings on AESToR in one of the network's DVRW panels (Smolka, 2019b). Because my conference contribution followed from a request by the panel organisers, while controversial discussions had in fact started several days before my presentation, it is possible that my presentation stoked a fire that was already burning.

Whether the fire will keep on burning, or, in other words, whether controversy in AESToR will persist beyond the period during which I followed the network, is an empirical question. It may be the case that AESToR is still in a state of controversy, and that at some point closure will be reached after all. At that point it would be possible to pursue an analysis aimed at understanding the nature of the closure of debate. One possible drawback of looking at a controversy in hindsight, however, is that particular tensions or details from discussions may no longer be adequately remembered by actors or have become difficult to identify in official records. In his analysis of the social construction of the mountain bike, for instance, Rosen (1993) cannot discount the possibility that the design of mountain bikes will eventually stabilise. At the same time, greater distance, as he observes, 'will always make an artefact look more stable' (p. 506). To avoid this potential drawback, I studied controversy in AESToR as it unfolded and focus my analysis on a recent period of data collection (2017–2020). Rather than discussing events chronologically, I present them in a structured fashion in three analytical sections, each one covering one

component of the tripartite analytical framework as it applies to the empirical material.

1. *Kulturwissenschaft* versus *Naturwissenschaft*

More than thirty years ago, Cancik and Mohr (1988) introduced *Religionsästhetik* as a sub-discipline of religious studies. Since then, various German scholars have re-introduced *Religionsästhetik* or aesthetics of religion – the English translation has been used more frequently since the establishment of AESToR – as an 'approach' (Kreinath, 2004, p. 100), a 'new field of research' (Wilke, 2008, p. 206), a 'sub-discipline' (Guggenmos, 2012, p. 268), and even as the 'leading discipline' (Mohn, 2004, p. 300) of religious studies. The terms 'discipline' and 'field' mark academic territory and separate the aesthetics of religion from earlier text-centric and phenomenological approaches to the study of religion. Whereas text-centric approaches look for religious revelations in sacred books, phenomenological approaches consider religion as a decontextualised experience *sui generis*. The aesthetics of religion, by contrast, is based on the assumption that religions are cultural constructs which are conditioned on their historical, social, and cultural contexts (Wilke, 2008, p. 209).

As the aesthetic dimension of religion is assumed to happen in 'cultural patterns' (Koch and Wilkens, 2019b, p. 1), scholars in the aesthetics of religion pursue a cultural approach to the study of religion. They consider their field as a *Kulturwissenschaft* (Münster, 2001; Lanwerd, 2002; Mohn, 2004), which must be distinguished from the American and British cultural studies. While cultural studies are politically motivated (analyses of power dynamics are supposed to serve as resources for resistance), the German *Kulturwissenschaften* pursue an epistemological project (Musner, 2001). *Kulturwissenschaften* emerged as an interdisciplinary field that informed a cultural turn in the humanities to mitigate the increasing fragmentation of academic disciplines in postwar Germany (Böhme et al., 2007). The aesthetics of religion are thus of German origin, but scholars have made stronger efforts to gain international visibility since the launch of AESToR.

AESToR member Guggenmos (2012) describes CSR as the Anglo-American cognitive science counterpart to the German aesthetics of religion. CSR is an academic field with institutional grounding both in Europe and in North America. It draws on theories and methods from the cognitive sciences to explain mental processes and underlying recurrent patterns of religious thought and behaviour (Xygalatas, 2014). After an initial decade of laying theoretical foundations, CSR turned towards empirical hypothesis testing. According to some of CSR's founding fathers, '[t]he cognitive sciences now offer an empirical, experimentally based paradigm for the study of religion' (Martin and Wiebe, 2012, p. 592), which sets CSR on a 'truly scientific footing' (Whitehouse, 2017, p. 47).

CSR as a *Naturwissenschaft* and the aesthetics of religion as a *Kulturwissenschaft* clashed when CSR researcher Sørensen gave a keynote lecture on cognitive processing of rituals during an AESToR workshop in June 2018. The editors of AESToR's handbook had invited Sørensen to join the workshop and to contribute a chapter to their handbook. They hoped that this invitation would help to better integrate CSR in the handbook. However, some of their colleagues' reactions to Sørensen's keynote lecture suggest exactly the opposite: it only enhanced the rift between the two paradigms.

Experiment on Cognitive Processing of Rituals

In his keynote lecture 'Ritual and Ritualized Behaviour' (2018), Sørensen presented an experiment on how ritual participation is cognitively processed. The experiment was conducted by an interdisciplinary research team and resulted in two publications on which Sørensen based his lecture (Nielbo and Sørensen, 2011; Schjødt et al., 2013). In this study, cognitive processing is defined according to the predictive processing model of the brain. The brain is modelled as a prediction machine that produces predictions about the world, which are continuously compared with and updated in response to sensory input. During a ritual, operationalised as a non-functional action sequence, prediction error occurs frequently because a ritual is deprived of an obvious goal and of causal links between individual actions. As constant prediction error monitoring generates high attentional demands, ritual participants need to be highly concentrated during the entire ritual to execute it properly.

To test whether a ritual indeed generates high attentional demands, an experiment was developed in which undergraduate students segmented filmed action sequences into action units by means of a response button. The task was performed for two action sequences (Figure 1): one was functional (i.e. actions were causally related and exhibited a goal) and the other was non-functional (i.e. actions were not causally related and a goal was not apparent). When watching the non-functional action sequence, students

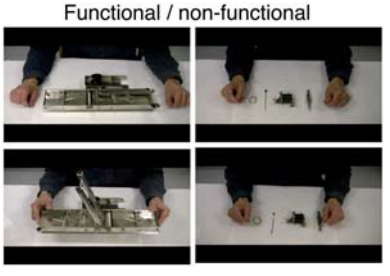

Figure 1. Ritual/non-ritual condition in an experiment on cognitive processing of rituals; presentation slide (Sørensen, 2018, p. 22, © Kristoffer L. Nielbo).

pressed the response button more often than in the case of the functional action sequence (Figure 2). According to Sørensen and colleagues, this result suggests that segmenting a non-functional action sequence into action units creates higher attentional demands compared to the segmentation of a functional action sequence. When students watched the same non-functional action sequence several times, the number of button presses remained chronically high. The researchers draw the conclusion that rituals, even when practised on a regular basis, have high attentional demands, which explains why ritual participants have barely any cognitive resources left to understand and memorise the event. As a result, prior expectations and interpretations often provided by religious authorities may become more important for participants' understanding of the ritual than their perception of the event.

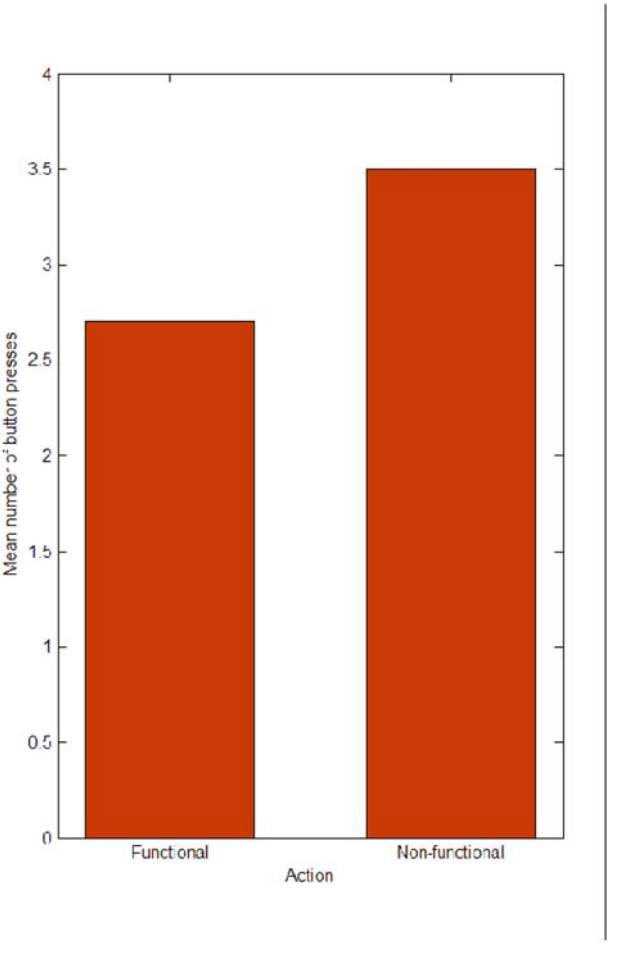

Figure 2. Graphical representation of experimental results; presentation slide (Sørensen, 2018, p. 21, © Kristoffer L. Nielbo).

Critical Responses to the Experimental Study of Rituals

In response to Sørensen's presentation of an experimental study of rituals, AESToR members raised three critical issues. First, some AESToR members were surprised that Sørensen and his colleagues drew conclusions about how ritual participants interpret a ritual event without taking first-person experience of participants into account. An AESToR member asked in an interview:

> Why is the experience of those exercising [the ritual] not taken seriously? He [Sørensen] says that the ritual practitioner cannot process it fast enough, but maybe the practitioner knows much better what is happening and what he is doing … My methodological paradigm always centres on what people experience with whom I work, not on what I experience.

The interviewee added that one needs 'to take more seriously what people say, rather than their performance in cognitive tasks.'

Second, AESToR members questioned the definition of a ritual as a non-functional action sequence. According to some members, what counts as a ritual depends on the particular context in which a ritual takes place and on whether practitioners consider their actions as a ritual. There is no 'universal category' which defines a ritual.

Third, AESToR members doubted that experimental results generated in a laboratory setting were applicable to real-world contexts. An AESToR member who conducted historical research on African healing rituals was sceptical about whether results from a laboratory study with Western undergraduate students could be applied to religious healing rituals in Tanzania. Another AESToR member expanded this critique:

> The laboratory situation changes the complete experience. The measurement instrument influences experience and its cognitive processing. Imagine you say something in an fMRI scanner. It is all very artificial. The brain works differently in a real-life situation than in the laboratory. There are fundamental differences between the laboratory and field research.

In sum, AESToR members criticised the experiment's focus on behavioural measurements rather than subjective experience, the search for universally applicable categories instead of contextual specification, and the difference between laboratory and natural settings. These remarks indicate that the aesthetics of religion and CSR are different research paradigms with distinct epistemological, ontological, and methodological underpinnings. The disagreement about philosophical assumptions of inquiry classifies as a controversy of principle (Table 1). According to McMullin (1987), the resolution of controversies of principle 'is slow, and oblique' (p. 75) because fundamental assumptions are not likely to change. This explains the persistence of one side of the controversy in AESToR. The paradigm clash between *Kulturwissenschaft* and *Naturwissenschaft* explains why some AESToR members are sceptical about the

Table 1. Paradigm clash in AESToR.

AESToR members' comments on Sørensen's keynote lecture	*Naturwissenschaft*	*Kulturwissenschaft*	Controversy of principle
Why are ritual participants not asked about their experience of the ritual?	Causal relations between mental structures and behaviour	Meaning and subjective experience	Epistemological
There is no universal category that defines a ritual since what counts as a ritual depends on the context.	Universally applicable categories	Contextual specification	Ontological
Results from laboratory experiments are not applicable to real-life contexts.	Laboratory experiments	Natural settings	Methodological

combination of cognitive and cultural approaches. It does not explain, however, why other AESToR members work with cognitive theory and think that scholars in the aesthetics of religion should engage with literature from CSR.

2. Conflicting Visions of the Relation Between the Aesthetics of Religion and the Cognitive Science of Religion

The call for engaging with CSR literature was raised repeatedly at the AESToR workshop in November 2017. During the workshop, a proposal for the *Handbook of Cognitive and Cultural Aesthetics of Religion* written by the handbook editors circulated among AESToR members, and the editors announced that the publisher Bloomsbury was in favour of including 'cognitive' in the handbook title. The proposal suggests that handbook contributions would reference 'the state of the art in the cognitive study of religion.' One of the editors explained in an interview that the 'cognitive study of religion' is an umbrella term for cognitive approaches to the study of religion, among which CSR features prominently. Therefore, both names are used interchangeably and are subsumed under the same acronym (Koch and Wilkens, 2019b, p. 6). The proposal further promises: 'The Handbook innovatively *connects* historical anthropology and culture theories with the cognitive study of religion' (emphasis in original). What the handbook is supposed *to do* was a matter of conflict among AESToR members.

In interviews and informal conversations, AESToR members mentioned that they consider the handbook publication as a 'political move' to create an identity for the aesthetics of religion which facilitates the institutionalisation and internationalisation of the field. Accordingly, an interviewee referred to the handbook title as an 'identity marker.' She elaborated that a controversy over the relation between cognitive and cultural approaches in the aesthetics of religion had tainted discussions in AESToR before the workshop in 2017. However, the controversy did not start to boil until AESToR members gained the impression that they had to identify with both the cultural *and* the cognitive approach by including 'cognitive' in the handbook title.

Moreover, some were worried that by attaching the label 'cognitive' to a handbook arranged for classroom use, CSR and other cognitive research strands would gain increasing importance in the aesthetics of religion in the future. For this reason, an AESToR member left the network; she had envisioned a different future for the aesthetics of religion.

Handbooks do not simply map which theories, methods, approaches, and claims have reached consensus in an academic field; they also bring the field into being in a particular form (Jasanoff et al., 1995). Therefore, writing a handbook was an occasion for AESToR to articulate visions of the future of the aesthetics of religion. Visions conflicted with each other as regards the relation between the aesthetics of religion and CSR. From interviews and discussions during AESToR workshops in 2017 and 2018, I distilled three themes – connectivity, competence, and ethics – which each subsumes a pair of conflicting visions. Through my analysis of these visions, I do not mean to suggest that discussions in AESToR were binary, taking place between two opposing camps. Quite the opposite: some AESToR members claimed to occupy a middle position. The articulation of visions and counter-visions, however, fuelled controversial discussions in AESToR, and their juxtaposition per theme demonstrates how they (re-)produced controversy in AESToR.

Connectivity

The title of the first AESToR volume 'Aesthetics of Religion – a connective concept' condenses the vision that the aesthetics of religion 'bring[s] together the diverse expertise from within the Study of Religion and across the relevant disciplines' (Grieser and Johnston, 2017b, p. 32). The intention is to connect to other 'modes of academic knowledge' (p. 30) by 'paving the way to critically engage diverse academic knowledge cultures – not least the polarised debate on cognition and culture' (p. 31). Although all AESToR members seemed to agree with the vision of connectivity, some of them argued that connecting to CSR was difficult, if not impossible.

Sceptics disliked how CSR researchers presented themselves and their work during conferences. Some interviewees mentioned the 20th World Congress of the International Association for the History of Religions in 2010. As one of them reported:

> [CSR pursued] an acquisition strategy … The claim seemed to be: 'now we finally have real science' and that was very exclusive … It was connected to a demeanour that may be more common in the natural sciences.

Several AESToR members shared the impression that CSR researchers were 'preaching' cognitive theories as 'universal truths' and introduced a scientistic ideology to religious studies that subordinated other approaches.

Competence

Some AESToR members worried that if studies in the aesthetics of religion neglected the biological aspect of cognition, they would promote a simplified understanding of cognition. They juxtaposed 'new' insights and models in CSR with 'outdated' phenomenological theories, and emphasised that AESToR would 'look ridiculous' if members continued conceptualising cognition and sensory perception with the latter. One member added that in religious studies,

> religion is usually referred to as dealing with a super-empirical reality, a reality that cannot be perceived with the five senses. However, religious studies scholars barely discuss what it means to perceive something with the senses. To answer this question, we need cognitive-cultural studies.

The vision that AESToR members could learn from theories and experimental results in CSR met with resistance from other AESToR members who did not feel capable of mastering CSR literature in addition to their usual workload. Some explained that trying to read CSR literature was like 'learning another language' due to the usage of cognitive science jargon. Another AESToR member pointed at norms and standards hidden in experimental research that a humanities scholar might not be able to detect, let alone assess critically:

> [R]esults in the natural sciences find expression in data and data is translated into curves or graphics … There is always the question of what is the norm and what is divergent. As a scholar of religious studies, I would have to rely on my partner from the natural sciences for explaining what is normal and what is divergent.

AESToR members expressed unease about including experimental results from CSR research in their own work because they did not undergo training in experimental research and lacked competence to examine assumptions and designs of experiments.

Ethics

An AESToR member promoted collaborations with CSR and medical researchers on ethical grounds. As 'the humanities have suffered from an enormous pressure to justify themselves' in the last fifteen years, research on human and cultural phenomena, religions in particular, could be valorised by means of interdisciplinary research. Findings on positive effects of religious practices and beliefs, such as health benefits, could foster the translational potential of research on religions. For example, AESToR member Koch collaborated with a physician to study subjective and psychophysiological changes during a healing ritual. The described aim was to understand which ritual practices and corresponding biological mechanisms predict well-being of ritual participants (Meissner and Koch, 2015). Conversely, another AESToR member

rejected CSR research because he regarded it as 'unethical.' He considered the negligence of first-person experience in the study of religious beliefs and practices as an instrumentalisation and objectification of human subjects.

3. Controversy Generates Academic Productivity in AESToR

Although conflicting visions continued to surface in discussions, it seemed as though proponents of CSR outvoted sceptics during the AESToR workshop in 2018. With the invitation of CSR researcher Sørensen to participate in the workshop and to contribute to AESToR's handbook, the incorporation of other handbook chapters drawing on CSR, and the inclusion of the qualifier 'cognitive' in the final version of the handbook title, the controversy seemed to end. After debates surrounding the handbook got settled, however, it was in the interest of AESToR members to prolong the controversy for the sake of epistemological pluralism and academic output.

Academic Output

For the public launch of the handbook at the DVRW 2019 conference, a major meeting point for religious studies scholars in Germany, AESToR members put controversy on the agenda again. In the book of abstracts for conference attendees, their panel is described as follows (Koch and Guggenmos, 2019b, p. 30):

> After a brief introduction to the new *Bloomsbury Handbook of Cognitive and Cultural Aesthetics of Religion* (Katharina Wilkens & Anne Koch), Mareike Smolka will present her study of debates within the research network AESToR.net, which she has conducted as participant observer. This rare and valuable opportunity to reflect on the role of visions and conflicting paradigms for academic knowledge production shall stimulate the discussion about blind spots, but also about opportunities to sharpen arguments and develop the approach further. In response to this presentation, Alexandra Grieser will discuss existing debates on the critique of the body/mind dichotomy, and proposals to bridge natural and cultural scientific knowledge in order to identify conceptual candidates for the theorisation of religion in a connective framework. The overall focus of the panel is that of the conference: how different approaches may contribute to a conceptualisation of religion that keeps up with an appropriate theory of knowledge for the Cultural Study of Religion. We hope for a lively debate opened up by a short response by Arianna Borrelli.

The invitation of an STS scholar to present a sociological perspective on 'debates within the research network AESToR.net,' its pitch against two responses from AESToR members, and panel organisers' 'hope for a lively debate' in the panel discussion – this framing would rather contribute to sustaining the controversy than ending it.

In fact, controversy had already started several days before the panel took place. Panel contributors had shared written accounts of their conference

presentations with each other, and this sparked a vexed e-mail exchange. It was up for discussion whether scholars in the aesthetics of religion had lapsed into natural science ebullience, or, in other words, an uncritical embracement of experimental results and theoretical claims from the cognitive sciences as unequivocal, true statements (Fitzgerald and Callard, 2014). The discussion fed into the conference panel, which attracted a relatively large audience: most seats in one of the lecture halls of Leibniz University Hannover were occupied by around 40 religious studies scholars. After the panel, an AESToR member announced to her colleagues over dinner that a paper based on participant observation of religious studies scholars had been presented at a religious studies conference for the first time. She proudly added: 'Scholars in the aesthetics of religion are once again brave enough to do things differently. This brought new impetus for debate.' And it also produced academic output and attracted attention.

Research in the genre of controversy studies has shown that controversies are fought out in academic publications, at conferences, and even in the media and popular science writing (Cassidy, 2006). A central task in a controversy is to convince audiences of the legitimacy of one's position, and academics therefore use different lines of communications to bring their point across (Sismondo, 2010). Some try to strengthen their persuasiveness by burying their opponents under piles of articles (Panofsky, 2015). What seems like a mass of academic output in the heat of a controversy, however, is cut in half as soon as a controversy ends because half of the mass is based on discarded ideas. In retrospect, academic output seems low during a controversy and much higher afterwards when consensus allows for coordinated scientific work. In this case, however, as long as the debate in AESToR persists, all scholarly work – whether it embraces or condemns CSR – remains *en vogue*. As engaging in debate boosts academic productivity, the participants have ample motivation to prolong the controversy.

Epistemological Pluralism

Another way in which controversy contributed to academic productivity in AESToR is epistemological pluralism. According to King et al.'s (2016) reading of Longino and Kitcher's democratic approach to knowledge, epistemological pluralism in a community of researchers can be productive if there is serious 'uptake' in debates (p. 72). Researchers must seriously engage with another position giving it equal consideration and weight as one's own. Such an engagement can be productive in the sense that it clarifies sources of disagreement, raises awareness of what has so far been taken for granted, and introduces new directions of inquiry.

An example of productive uptake relates to the university teaching of an AESToR member. He designed a student assignment for a university course

on 'Cognitive Cultural Studies.' The assignment asks students to write an account of CSR and to demonstrate their 'understanding of the theoretical foundations, spectrum, and implications of the cognitive approach' by 'approaching it from a critical position, or contrasting it to classical approaches to the study of culture and religion.'

Similarly, the handbook chapter on 'Aesthetics of the Spirits' (Bräunlein, 2019) engages with CSR literature by analysing the experience of spirits and ghosts through two different lenses: anthropological approaches to the body, senses, and emotion, and CSR. As Bräunlein concludes from his analysis (p. 282):

> Such explanations [in CSR] are helpful for understanding the aesthetics of spirits in a very general sense. However, to explore aesthetic complexities within the multifaceted spiritscapes around the globe, anthropological approaches to studying the body, the senses, and emotion are more productive.

He makes explicit that both approaches produce different kinds of knowledge, emphasising that anthropological approaches are more suitable to answer the questions that interest him (*how* human beings perceive ghosts, rather than *why* they perceive ghosts). By comparing and contrasting cognitive and cultural approaches, he carves out the epistemological underpinnings and relevance of his cultural approach. His account illustrates that epistemological pluralism and disagreement in a scholarly network provide resources for critically rethinking and, thereby, strengthening one's own position.

Conclusion

This article takes a surprising observation – an ongoing controversy over the relation between cognitive and cultural approaches to the study of religion – as a starting point to develop an analytical framework that helps explain the persistence of controversy. Drawing on the philosophy of science, sociology of expectations, and STS, the framework combines three perspectives to analyse the persistence of controversy in the research network AESToR: *paradigm clash, conflicting visions,* and *productivity.* The analysis highlights the interdependence of competing paradigms and conflicting visions. The notion that *Kulturwissenschaft* and *Naturwissenschaft* would exclude each other in this context is not solely a matter of their intellectual structure, because several AESToR members seek connectivity between the two. At the same time, visions about the future of the aesthetics of religion are informed by more fundamental assumptions, following from the paradigm in which academics are trained. Finally, the analysis shows that keeping a controversy alive can be in the interest of all parties involved. Enduring controversy allows participants to probe the limitations of their own position in critical interactions while generating academic output in the form of presentations and rebuttals.

This analysis makes two scholarly contributions. First, by shedding light on why controversy persists in a scholarly network, it contributes to the genre of internalist controversy studies. Such studies have focused on the analysis of closure mechanisms in a core-set of experts who are described as eager to leave disputes fairly quickly (Collins, 1981; Collins, 1985; Jasanoff, 2017). Studies of interactional controversies, by contrast, have paid greater attention to what makes debates with multiple stakeholders persist (Beder, 1991; Nelkin, 1992; Gottweis, 1995). In debates with multiple stakeholders 'where moral principles are at stake, efforts to negotiate and compromise may fail to sway those who are committed to a cause' (Nelkin, 1995, p. 454). The study of AESToR shows that similar dynamics can be observed in internalist controversies. Even within a scholarly network, conflicts between larger views on morality (ethics of empirical research) and epistemology (clash versus connectivity of paradigms) reproduce controversy (cf. Segerstråle, 1986).

Second, this study further develops Panofsky's (2015) concept of 'misbehaving science' – an enduring state of controversy where norms and standards remain ambiguous. Panofsky concludes his analyses of persistent controversy in behaviour genetics with a paragraph on 'knowledge in shackles' (p. 240). He explains that ongoing controversy has played a role in the fragmentation of the field which, in turn, stifled knowledge production: 'we can assert that misbehaving science has restricted what might be known about genes and behaviour' (p. 241). Controversy in AESToR, by contrast, has not dissolved the network; instead, it has been conducive to a pluralist advancement of knowledge (cf. Williams, 2019)

One interpretation of this observation is that controversy in a cohesive social group may be more likely to result in epistemological pluralism rather than fragmentation. AESToR members share a historical narrative which serves as reference point for the socialisation of new members (Mohn, 2004; Wilke, 2008). Scholars at different career stages have joined the network, and those with more secured positions and resources have provided the structural conditions for collaborations, such as venues for annual meetings. Applying the concept of 'misbehaving science' to a core-group rather than a core-set allows us to think of incessant controversy as a way to stimulate productive encounters between different kinds of knowledge.

Moreover, the analysis of controversy in AESToR warrants the expansion of the concept of 'misbehaving science' to interdisciplinary engagements between the humanities and the cognitive sciences (Littlefield and Johnson, 2012; Callard and Fitzgerald, 2015). Such encounters have been described by concepts, such as 'critical friendship' (Rose and Abi-Rached, 2013, p. 80) and 'experimental entanglements' (Fitzgerald and Callard, 2014). These concepts denote 'friendly' modes of joint epistemic work across the cognition-culture divide. The analysis of AESToR suggests that controversy is an alternative mode which may not be as 'friendly' but equally productive. If misbehaving

science involves humanities scholars for whom critical interactions and the search for the strongest argument are central to academic work, controversy may give impetus for new inquiries.

Notes

1. Jasanoff's 'internalist' and 'interactional' controversy studies must not be confused with 'internalist' and 'externalist' historiographies of scientific knowledge (Sismondo 2010, p. 50). The latter terminology refers to explanations of scientific knowledge focusing on intellectual and social forces internal to an expert community versus those that draw on broader social structures extending beyond the community.
2. Examples of enduring controversies were studied in fetal research by Maynard-Moody, surrogate motherhood by Taub, and HIV testing by Guttmacher – all published in Nelkin (1992).
3. For an overview of publications from the working group *Arbeitskreis Religionsästhetik* and individual publications from its members, see: http://www.religionsaesthetik.de/2018/01/01/literatur/

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